

Regulation and the Rise of Housing Prices in Greater Boston

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In well-functioning markets, when prices rise, supply increases, and then prices stop rising and sometimes even fall. By this definition, the housing market in the greater Boston area is not working.

The market is sending clear signals about the demand:

- Between 1980 and 2004, housing prices in three of the Census Bureau's divisions of the Boston metropolitan area grew by between 179 and 210 percent (adjusted for inflation), which made these areas—Boston-Quincy, Cambridge, Newton, and Essex County—second through fourth in the nation behind only the New York area's Nassau-Suffolk Division.
- According to data from the National Association of Realtors in the third quarter of 2005, the median sales price for existing single-family homes in the Boston metropolitan area was \$430,900, more than any other region in the continental United States except for portions of California, greater New York City, and the Washington, D.C. metropolitan area.

Supply, however, is not keeping up:

- In the 1960s, there were 172,459 units permitted in the Boston metropolitan area; in the 1980s, 141,347. However, despite the sharp rise in prices in the 1990s, only 84,105 units were permitted in that decade.
- The decline in permits has been particularly striking for units in multi-family buildings. In the 1960s, less than 50 percent of all permits in the Boston metropolitan area were for single-family homes. In the 1990s, over 80 percent of all permits were for single-family homes.

Some of the price increase can be explained by the region's dramatic economic renaissance in the past three decades. However, other regions have boomed without experiencing dramatic increases in house prices. Until the last quarter, for example, median housing prices in the Phoenix area were less than \$200,000 and in the Houston area the current median sales price is \$142,000. Local governments in Phoenix area handed out 57,273 permits for single-family homes during 2004, Las Vegas area localities 35,579—local governments in the greater Boston area only 5,001.

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This policy brief is based on "Regulation and the Rise of Housing Prices," a working paper by Glaeser, Schuetz and Ward that was released in January by the Rappaport Institute and the Pioneer Institute. The full paper is available online at http://www.ksg.harvard.edu/rappaport/downloads/housing_regulations/regulation_housingprices.pdf

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Is Greater Boston Running Out of Land?

There are two theories about why so little new housing is being built in Greater Boston. It may simply be that the area has run out of land. After all, the Boston metropolitan area is one of the country's most dense metropolitan areas. Alternatively, the shortfalls in supply may be the result of restrictive land use regulations.

There is little evidence to support the view that greater Boston simply lacks the land to build new homes. Within the urban core, it would be quite feasible technically to build taller buildings. In fact, with strong support from the city, a host of new high-rise residential housing has been built or is being built in the heart of Boston. While densities outside of the core are high relative to the United States as a whole, they are still quite low, averaging 1.4 acres per home for communities within 50 miles of Boston. Moreover, if land were just scarce, then the price of a quarter acre of land would be the same whether it extends an existing lot or if it sits under a new home.

Data suggests that regulation, not density, has caused low levels of new construction and high housing prices in Greater Boston.

However, Glaeser and Gyourko (2002) find that a quarter-acre is worth 20 times more in greater Boston if it sits under a new house than if it extends the lot of an existing house, suggesting that surviving the regulatory process adds enormous value.

Greater Boston's Regulatory Web

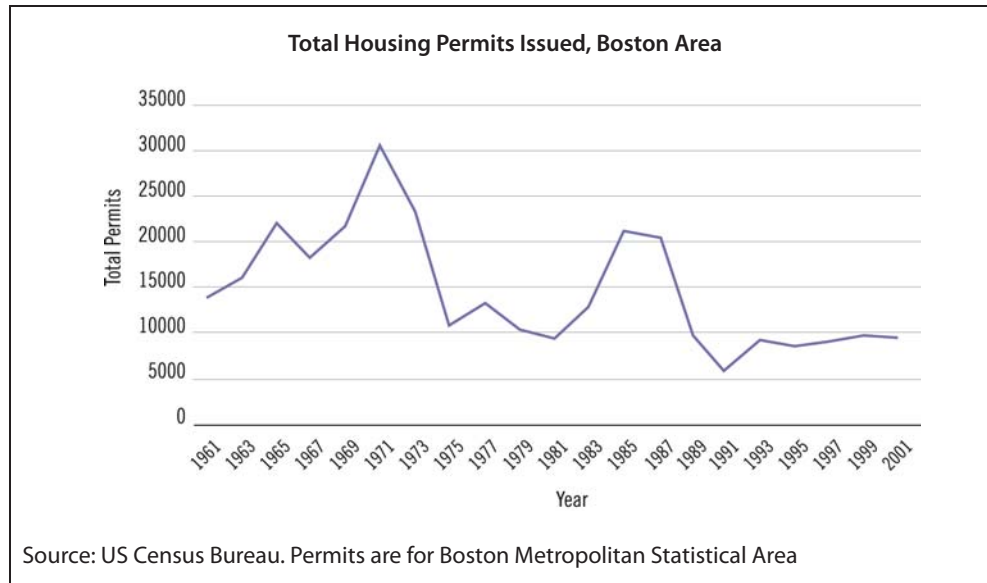
Such data suggest that regulation, not density, has caused low levels of new construction and high housing prices in Greater Boston. To help test this claim, over the past two years the Pioneer Institute for Public Policy Research

and the Rappaport Institute developed a unique new dataset on land-use regulation in 187 cities and towns in eastern and central Massachusetts. Working under the direction of Pioneer's Amy Dain, researchers answered more than 100 questions about each community's land-use regulations by reviewing official documents and interviewing local officials, who were subsequently given the opportunity to review the data about their community.

The most striking fact that emerges from the data is that developers face an incredibly heterogeneous set of local regulatory regimes. This heterogeneity begins with minimum lot size, which remains the most important restraint on the use of land. The 22 municipalities in the region with average minimum lot sizes of less than a quarter of an acre contain more than 25 percent of the region's population. In contrast, the 14 municipalities where minimum lot size is greater than 70,000 square feet (1.625 acres) cover ten percent of the region's land but hold only four percent of its population.

Communities have at their disposal a number of other regulations that they can use to limit new construction.

- *Growth caps and phasing schedules.*
Communities can use growth caps to limit the number of new units that can be built during a given year, or phasing schedules to limit the number of units per year that can be built within a single subdivision. We identified 54 communities that made use of growth limitations, the vast majority having adopted them in the last ten years.
- *The prohibition of irregularly shaped lots.*
More than half of the communities with the largest minimum lot sizes make it even harder to meet their standards by requiring that those lots be sufficiently compact.
- *Wetland regulations.*
More two-thirds of the 187 communities have wetlands bylaws or ordinances that are



stricter than state wetland regulations. Only a handful of these bylaws or ordinances were adopted before 1980. More than 50 communities adopted them in the 1980s, and more than 50 have adopted them since 1990.

- *Septic-system regulations.*

We counted 109 communities with septic-system regulations stricter than the state's standards, which is two-thirds of municipalities that are not entirely served by public sewer systems.

- *Subdivision rules.*

All but six communities have rules for subdivisions. Some adopted the regulations before 1950 and most did so by 1980. More than 70 amended their bylaws after 2000.

While communities in the greater Boston area have also adopted measures that relax minimum lot-size requirements, they often find ways to discourage their use.

- *Cluster provisions* allow developers to build at higher densities if they set aside some amount of open space. The lot size reductions due to cluster zoning are quite dramatic. In communities with large

minimum lot sizes, cluster zoning typically allows almost a two-thirds reduction in the minimum lot-size requirement for each home. At the same time, however, many of the communities allow no more units in a development built under cluster zoning than would have been allowed under a conventional zoning plan.

- *Inclusionary zoning provisions* often allow builders to construct at higher densities if they include some housing units designated as affordable to lower moderate-income households. Ninety-nine of the municipalities in our sample have adopted some type of inclusionary zoning provision and nearly half of those have adopted the provision since 2000. Seventy-seven of these communities offer a density bonus for including the affordable units. However, the provisions have never been used in at least 43 of the 99 communities.
- *Age-restricted zoning* is often used to allow smaller minimum lot sizes if the development is open only to older adults. Almost 60 percent of those communities with more than 20,000 square foot minimum lot sizes have some form of provision for such age-restricted housing.

More than 40 percent of those communities with minimum lot sizes that are greater than 35,000 square feet have provisions that allow for age-restricted multi-family housing.

Impacts on Permits

While these regulations are striking and diverse, it is less clear which of them actually matter. To answer this question, we connected the new dataset with data on permits by locality going back to 1980, *Banker and Tradesmen* data on house sales in the greater Boston area, U.S. Census data going back to 1910, and the Massachusetts GIS system, which collected data on minimum lot size requirements across the state in 1999–2000.

The evidence linking minimum lot size to development is persuasive. On average, as average minimum lot size increases by one-quarter of an acre, there were approximately ten percent fewer houses in 1970, nine percent fewer houses in 2000, and ten percent fewer houses permitted between 1980 and 2002. These results are, perhaps, unsurprising, but they do confirm the important role that zoning has on new development.

Perhaps, more surprisingly, the connection between minimum lot size and development is declining over time, as even places with smaller minimum lot sizes radically reduce the amount of new construction they allow.

It is less clear which of three broad areas of additional regulation have had the greatest impact on new construction: wetland regulations, septic rules, or subdivision policies. We found that when localities impose wetlands regulations stricter than those imposed by the state, new construction appears to fall by about ten percent. When localities impose rules for septic systems that are stricter than state standards, new construction falls by about four percent. Adoption of subdivision rules, finally, is associated with about a

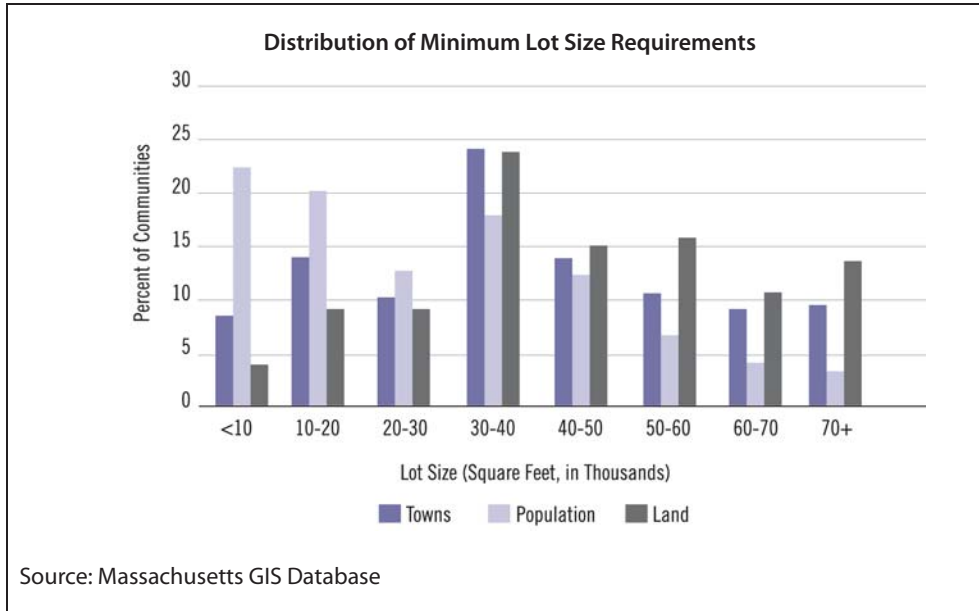
twelve percent drop in new construction. The estimated effects of each form of regulation individually are inconclusive; the magnitude of the effects is imprecisely estimated; and we cannot be certain that the effects are statistically different from zero. However, combining all three forms of regulations into one index, we obtain statistically robust results indicating that each additional form of regulation is associated with a ten percent decline in annual permits. The degree of correlation across these three kinds of regulation, however, prevent us from coming to a reliable conclusion about the degree to which each individually contributes to the shortfall in new construction permits.

The reductions in permits caused by the regulations has had a significant effect on regional housing prices.

What about features that alleviate the burdens of zoning? Adoption of cluster zoning is correlated with an increase in the amount of new development, but we were not able to discern an impact of inclusionary zoning. We also were unable to assess the impact of Chapter 40B, the Massachusetts Anti-Snob Zoning Act, which allows the state to overrule local land-use decisions for projects, because it impacts most municipalities. Nonetheless, we can say that the more than 30,000 units constructed under Chapter 40B have accounted for a significant part of new development in many areas.

Housing Prices

The reduction in permits caused by the regulations has had a significant effect on regional housing prices. Since 1990, for example, the housing stock in greater Boston increased by only nine percent. Published estimates of housing demand elasticities (Ermisch, Findlay, and Gibb 1996), suggest that if the housing stock had instead increased



by 27 percent, as it did from 1960 to 1975, housing prices would be 23 to 36 percent lower. That is, the median house price, which is now \$431,900, would have been as low as \$276,100.

While we can show that regulations reduce new construction permits, and connect that lack of supply to high housing prices in the greater Boston area, it is more difficult to estimate the price of housing directly from the degree of regulation. Housing markets are regional not local: more restrictions in Wellesley will not only raise prices in Wellesley, but also in neighboring Needham, even if Needham has less stringent land-use restrictions. Because we lack the kind of clear comparisons we had with the effect on permits, we have to make do with less precision and certainty.

Nevertheless, land-use regulations do seem to have an impact on locality-specific prices: an additional acre in minimum lot size raised the median sales prices of homes in the locality in question by 15.8 percent in 1987, 11.3 percent in 1995, and 19.5 percent in 2001. That impacts were higher in 1987 and 2001 than in

1995 suggests that more restrictive land-use regulations are more potent at high points of the real estate cycle.

Median sales price, however, does not control for differences in housing characteristics or the land area under the median home that is being sold. Housing units in areas with larger lots may be more expensive because they are larger and have more land. When we control for housing characteristics such as the number of rooms, age of the home, internal square footage, and total acreage of the lot, one additional acre in the minimum lot size is associated with between an 11.5 and 13.8 percent increase in housing prices, depending on what other factors we control for. This is less than the effect when we do not take into account actual acreage under the housing unit, but is still significant.

Land-use regulation has also reduced the amount of affordable housing in the greater Boston area. To assess this impact, we calculated the share of sales in the community where an average resident of the region could pay for the interest on the purchase price of the home with 30 percent of his or her income. We find that as minimum lot size increases by

one acre, the share of homes that qualify as affordable by this definition drops by 8-to-20 percent.

Addressing the Problems

The current system has four structural features that must be addressed if proposals for change are likely to be effective.

1. While individual communities have every incentive to impede new construction with land-use regulations, those who have yet to buy and those who reside in surrounding communities, whether individuals or businesses, suffer.
2. Localities have demonstrated remarkable resilience and creativity in keeping the supply of housing low. If the state tries to limit the restrictions along any one dimension, communities will increase them on one or more other dimensions.
3. The high degree of ambiguity in regulations and uncertainty in the permitting process increases costs for developers and encourages frivolous court challenges. It is both hard and expensive for developers to raise money, and difficult for developers, local officials, and abutters to negotiate binding agreements.
4. With only limited procedures for allowing developers to compensate current residents and communities for the negative impact of new development, the current system is economically inefficient.

Four policy approaches could address the problems created by these features.

1. The state could alter local incentives by using state aid to reward localities that encourage new construction and punish those who discourage it. While the recently passed Chapters 40R and 40S, which are designed to eliminate fiscal problems created by new development, are small steps in the right direction, the state needs to use the

bulk of its local aid to successfully encourage new construction.

2. The state could follow, more intrusively, the lead of Chapter 40B and give state or regional entities the power to overrule local land-use decisions in communities with low density levels, high prices, and few permits. Such an override, moreover, should be linked with impact fees at a level set by the state. Overriding local control is sure to be unpopular, but it is also the surest way of breaking local bottlenecks on new construction.

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3. The state could take policy actions that clarify rights and limit the potential for litigation while simultaneously increasing protections for current homeowners, thus improving the lot of both developers and local homeowners. Such measures might include requiring plaintiffs who unsuccessfully challenge a project in court to pay a fee or to pay the developers' legal costs.
4. The state could substitute existing regulations with a well-designed impact-fee system that would reduce uncertainty, promote new construction, and enhance the welfare of developers, abutters, and communities. We want to emphasize, however, that impact fees could only increase new construction and housing affordability if they replace existing barriers to new construction.

If the residents and businesses in greater Boston are seriously interested in making affordable housing a reality, they must lower the barriers against new construction. However, since there is no reason to expect that localities will act against the self-interest of homeowners,

it is up to the state to take action to change the schedule of incentives and relieve the externalities burdening those who have yet to buy a home and businesses. Because the only way to reduce the price of something is to produce more of it, it is logically incoherent to be both an advocate of affordable housing and an opponent of new construction.

REFERENCES

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by Edward L. Glaeser and Joseph Gyourko (HIER Discussion Paper Number 148 (2002)).

“The Price Elasticity of Housing Demand in Britain: Issues of Sample Selection,”

by John F. Ermisch, Jeanette Findlay, and Kenneth Gibb, *Journal of Housing Economics*, 5(1): 64-86.

ABOUT THIS POLICY BRIEF

This policy brief is part of the Initiative on Local Housing Regulation, a joint effort of the Pioneer Institute for Public Policy Research and Harvard University’s Rappaport Institute for Greater Boston. As part of this initiative, researchers at the Pioneer Institute and the Rappaport Institute have assembled and coded a database on zoning codes, subdivision requirements, and environmental regulations that as of 2004 governed land use in 187 communities in eastern and central Massachusetts. The searchable database is available at <http://www.pioneerinstitute.org/municipalregs/>. The site also houses summary reports, analyses of the data, and a downloadable version of the database in formats that can be used for econometric analyses. In coming months, the Pioneer Institute and the Rappaport Institute will also be issuing papers and policy briefs, some jointly and some individually, on land-use regulation in greater Boston.

INSTITUTIONS

The **Pioneer Institute for Public Policy Research**, founded in 1988, is an independent, non-profit, public policy research institute based in Boston that generates and markets new and practical public policy ideas and peer-reviewed scholarship. Pioneer Institute research explores the application of market principles to state and local policy to advance the core values of an open society - individual freedom and responsibility, economic opportunity, social mobility, and limited government.

The **Rappaport Institute for Greater Boston** at Harvard University strives to improve the region’s governance by attracting young people to serve the region, working with scholars to produce new ideas about important issues, and stimulating informed discussions that bring together scholars, policymakers, and civic leaders. The Rappaport Institute was founded and funded by the Jerome Lyle Rappaport Charitable Foundation, which promotes emerging leaders in Greater Boston.



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by Edward L. Glaeser, Jenny Schuetz and Bryce Ward (Harvard University)

UPCOMING EVENTS

Developing Concerns: Lessons from Arlington, Massachusetts’ Changing Views on Development

Tuesday, February 28 at 12:00 p.m.

Taubman AB, 5th floor Taubman Building

15 Eliot Street, next to the Charles Hotel

Crime, Time and Employment: Realistic Options for Helping People Leaving Prison Find Better Jobs

Monday, March 13 at 5:00 p.m.

Bell Hall, 5th floor of the Belfer Building

At the corner of John F. Kennedy and Eliot Streets

Guarding the Town Walls: Mechanisms and Motives for Redistricting Multifamily Housing in Massachusetts

Wednesday, March 22 at 12:00 p.m.

Bell Hall, 5th floor of the Belfer Building

At the corner of John F. Kennedy and Eliot Streets

Extending Boston’s Four-Century History of Innovation

Thursday, April 6 at 12:00 p.m.

Taubman AB, 5th floor of the Taubman Building

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Police Oversight in the Face of Terrorism: Lessons from London

Tuesday, April 11 at 6:00 p.m.

John F. Kennedy, Jr. Forum, 79 John F. Kennedy St.

Planning at the Cutting Edge: How are the Communities in the I-495 Corridor Responding to Rapid Growth?

Wednesday, April 12 at 12:00 p.m.

Taubman AB, 5th floor Taubman Building

15 Eliot Street, next to the Charles Hotel

The Boston Youth Violence Project: Current Trends and Future Challenges

Monday, April 17 at 5:00 p.m.

Bell Hall, 5th floor of the Belfer Building

At the corner of John F. Kennedy and Eliot Streets